

which the Department is a party, and of all communications to the Department of Justice, and to the various officers thereof, including United States attorneys. He will examine and approve, in advance of issue, all orders and regulations promulgated by the Secretary under statutory authority. He will represent the Department in all legal proceedings arising under the various laws entrusted to the Department for execution. He will prosecute applications of employees of the Department for patents under the terms of Department Circular No. 3, 1905. His duties will be performed under the immediate direction of the Secretary.

#### NOTES ON EARTHQUAKES BY WEATHER BUREAU OBSERVERS.

The following items are extracted from the Monthly Meteorological Reports for May, 1905:

San Luis Obispo, Cal., Thursday, May 25, 1905. Light earthquake, E.-W., 3 seconds duration, at 9<sup>h</sup> 49<sup>m</sup> p. m.

Sacramento, Cal., Friday May 19, 1905. A slight shock of earthquake reported to have occurred at 4<sup>h</sup> 59<sup>m</sup> p. m. This shock was not noticed by the observer.

Independence, Cal., Tuesday, May 23, 1905. A very feeble earthquake shock was felt at this place at 6<sup>h</sup> 50<sup>m</sup> p. m. It was also noticed at Bishop, Cal.

#### STORM WARNINGS AT WIRELESS TELEGRAPH STATIONS.

Arrangements have been completed for the display of

Weather Bureau storm-warning flags at the following-named wireless telegraph stations of the Navy Department:

Seaveys Island Navy Yard, Portsmouth, N. H.  
Thatchers Island, Mass.  
Nantucket Shoal light-vessel, Mass.  
Diamond Shoal light-vessel, off Hatteras, N. C.  
Charleston light-vessel, S. C.  
Mare Island Navy Yard, Cal.  
Yerba Buena, Cal.—*E. B. G.*

#### ADDENDUM ET CORRIGENDA.

*Hawaii.*—Continued cool and showery weather in most sections during month; drought in the Kau district of Hawaii broken during last week. Growing cane made good progress, and a few of the plantations finished the harvesting of mature cane; preparation of land and planting for the 1907 crop continued. Rice in all sections ripening with a heavy yield; some early rice already harvested in Hawaii and Oahu. The summer crop of pineapples had begun to mature, and promised well. Coffee trees in leeward section put on an exceptionally fine foliage. Pastures generally in good condition during month.—*Alex. McC. Ashley.*

MONTHLY WEATHER REVIEW for 1904, Vol. XXXII, No. 13, Table VII, Hermann, Mo.: Highest water; for "22.7 on July 12", read "23.7 on April 27". Annual range; for "20.7", read "21.7". Camden, Ark.: Highest water; for "35.2", read "33.6". Lowest water; for "3.1", read "2.0". Annual range; for "32.1", read "31.6".

### THE WEATHER OF THE MONTH.

By Mr. WM. B. STOCKMAN, Chief, Division of Meteorological Records.

#### PRESSURE.

The distribution of mean atmospheric pressure is graphically shown on Chart VIII and the average values and departures from normal are shown in Tables I and V.

The mean pressure for the month was highest—slightly more than 30.00 inches—over the middle and south Atlantic coasts; and lowest over the middle and southern Plateau and slope regions, with the lowest mean, 29.75 inches, at Santa Fe, N. Mex.

No decided departures from the normal occurred, the pressure being slightly above the normal generally in southern New England, central lower Lake region, the Middle and South Atlantic States, southern Arizona, the western parts of Nebraska and South Dakota, southwestern North Dakota, the eastern parts of Wyoming and Montana, and the extreme northwestern parts of Montana and California; elsewhere it was below the normal.

The mean pressure for the month increased over that of April, 1905, in New England, the Middle and South Atlantic States, extreme eastern Florida, northeastern portion of the east Gulf States, central and eastern portions of Tennessee and the Ohio Valley, the Lake regions, and on the coast of Oregon and northwestern California; elsewhere the mean pressure diminished.

The greatest increase occurred in eastern New England, and the maximum decreases over the central portions of the Dakotas, and southeastern Wyoming.

#### TEMPERATURE OF THE AIR.

The mean temperature for the month was above the normal from the Middle Atlantic States, Lake regions, central Mississippi and lower Missouri valleys southward to the Gulf of Mexico and the central Rio Grande Valley; and below the normal in the remaining districts. The greatest positive departures, +4° to +5°, occurred on the coast of North Carolina and in eastern Mississippi and southeastern Louisiana. The greatest negative departures, -4° to -6°, occurred over the southern Plateau region, and eastern California.

The mean temperature for the month was as high as for any

May on record at Corpus Christi, Tex., Elkins, W. Va., Galveston, Tex., Hatteras, N. C., Jacksonville, Fla., Mobile, Ala., New Orleans, La., and Pensacola, Fla.; and 1° higher than any May at Jupiter and Tampa, Fla.; 1° lower at Grand Junction, Colo., Independence, Cal., Lewiston and Pocatello, Idaho; 2° lower at Houghton, Mich., and Modena, Utah, and 3° lower at Syracuse, N. Y.

The average temperatures for the several geographic districts and the departures from the normal values are shown in the following table:

*Average temperatures and departures from normal.*

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
New England .....	8	53.3	- 0.4	- 8.1	-1.6
Middle Atlantic .....	12	62.6	+ 1.3	- 6.6	-1.3
South Atlantic .....	10	73.1	+ 3.2	- 5.4	-1.1
Florida Peninsula* .....	8	79.1	+ 3.2	+ 1.6	+0.3
East Gulf .....	9	75.6	+ 3.2	- 8.4	-1.7
West Gulf .....	7	75.1	+ 2.5	- 8.5	-1.7
Ohio Valley and Tennessee .....	11	66.6	+ 2.0	- 9.1	-1.8
Lower Lake .....	8	56.4	- 0.3	-10.3	-2.1
Upper Lake .....	10	51.0	- 0.7	- 6.0	-1.2
North Dakota* .....	8	50.2	- 2.7	+ 5.6	+1.1
Upper Mississippi Valley .....	11	61.1	- 0.4	- 8.0	-1.6
Missouri Valley .....	11	59.1	- 1.0	- 5.7	-1.1
Northern Slope .....	7	50.2	- 3.2	- 0.3	-0.1
Middle Slope .....	6	61.5	- 0.6	- 9.3	-1.9
Southern Slope* .....	6	69.8	+ 0.9	-13.9	-2.8
Southern Plateau* .....	13	60.8	- 4.3	- 1.3	-0.3
Middle Plateau* .....	8	51.6	- 4.0	+ 5.2	+1.0
Northern Plateau* .....	12	52.2	- 2.6	+ 8.0	+1.6
North Pacific .....	7	52.5	- 1.3	+ 9.4	+1.9
Middle Pacific .....	5	57.7	- 2.4	+ 7.9	+1.6
South Pacific .....	4	60.0	- 2.4	+ 9.1	+1.8

\* Regular Weather Bureau and selected cooperative stations.

By geographic districts the temperature was above the normal in the Middle, South Atlantic, and Gulf States, Ohio Valley and Tennessee, and southern slope region; and below the normal in the remaining districts.

Maximum temperatures of 90°, or higher, occurred in the southeastern portion of the Middle Atlantic States, the South Atlantic and Gulf States, southern part of the southern slope

region, portions of the southern Peateau region, and interior California; of 100°, or higher, in the lower Rio Grande Valley, western Arizona, and southeastern California; and of 110° in southeastern California and west central Arizona.

Freezing temperatures occurred in the interior of New England, Lake regions, the upper Mississippi and upper Missouri valleys, and in the Plateau and slope regions almost to the Mexican border.

The minimum temperature was as low as any May recorded at Lewiston, Idaho, and Port Crescent and Spokane, Wash.; 1° lower at Walla Walla, Wash., and 4° lower at Williston, N. Dak.

*In Canada.*—Prof. R. F. Stupart says:

The mean temperature for May has been either just average or from 1° to 2° below average over the larger portion of the Dominion; southern Alberta and western Assiniboia alone showing a somewhat larger negative departure. One of the features of the month has been the absence of pronounced extremes, no very marked heat terms having occurred, and, on the other hand, the frosts recorded were not as a rule severe, except in portions of British Columbia and in the Maritime Provinces.

### PRECIPITATION.

The distribution of total monthly precipitation is shown on Chart III.

The distribution of precipitation was uneven, but the amounts were generally below the normal in New England, the Middle Atlantic States, northeastern Georgia, western South Carolina, southern Florida, extreme eastern Tennessee, southwestern Mississippi, southern Louisiana, extreme southeastern Texas, portions of the central Mississippi and lower Missouri valleys, northern lower Michigan, upper Michigan generally, northeastern Minnesota, western North Dakota, eastern Montana, the coast of Washington, central Idaho, central and western Oregon, extreme northwestern California, north-central Nevada, central Colorado, New Mexico, and southern Arizona; and above the normal in the remaining districts.

*Average precipitation and departure from the normal.*

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		Inches.		Inches.	Inches.
New England.....	8	2.13	60	-1.4	-5.4
Middle Atlantic.....	12	2.93	81	-0.7	-2.8
South Atlantic.....	10	5.70	147	+1.8	-0.2
Florida Peninsula.....	8	5.16	145	+1.6	+1.9
East Gulf.....	9	5.65	133	+1.4	+2.1
West Gulf.....	7	5.46	125	+1.1	+2.6
Ohio Valley and Tennessee.....	11	5.74	146	+1.8	-2.8
Lower Lake.....	8	3.70	109	+0.3	-1.7
Upper Lake.....	10	3.83	115	+0.5	-0.8
North Dakota.....	8	3.27	158	+1.2	-1.0
Upper Mississippi Valley.....	11	4.36	105	+0.2	-2.0
Missouri Valley.....	11	5.47	131	+1.3	+0.8
Northern Slope.....	7	3.24	138	+0.9	+1.3
Middle Slope.....	6	4.09	114	+0.5	+3.7
Southern Slope.....	6	6.44	172	+2.7	+7.0
Southern Plateau.....	13	0.53	100	0.0	+6.0
Middle Plateau.....	8	1.42	139	+0.4	+1.5
Northern Plateau.....	12	1.86	106	+0.1	-1.5
North Pacific.....	7	2.95	107	+0.2	-7.1
Middle Pacific.....	5	1.94	135	+0.5	-2.2
South Pacific.....	4	1.28	337	+0.9	+3.2

\*Regular Weather Bureau and selected cooperative stations.

The greatest excesses, +4.0 to +6.0 inches, occurred in portions of the Gulf States, upper Ohio and upper Mississippi valleys; and the greatest deficiencies, -2.0 to -3.0 inches over southern New England, the eastern parts of New York, Pennsylvania and Maryland, extreme southern Florida, southeastern Texas, west-central Mississippi, central Illinois, and portions of northeastern Missouri.

By geographic districts the precipitation was normal in the southern Plateau region; below normal in New England and the Middle Atlantic States, and above normal in the remaining districts.

The precipitation was the greatest in any May since the establishment of station by 0.39 inch at Savannah, Ga., 0.41 inch at Huron, S. Dak., 0.58 inch at Grand Junction, Colo., 0.88 inch at San Luis Obispo, Cal., 0.98 inch at Mount Tamalpais, Cal., 1.05 inches at Cincinnati, Ohio, and 1.68 inches at Moorhead, Minn.

Snow occurred in New England, except Rhode Island, New York, northern Pennsylvania, upper Michigan, North Dakota, and over the slope and Plateau regions as far south as the northern portions of New Mexico and Arizona, southern Nevada, and central California.

*In Canada.*—Professor Stupart says:

In British Columbia and Manitoba and over the larger portion of Assiniboia the precipitation was excessive, and this was especially the case between Brandon and Swift Current, where it was about double the average amount and was partly snow which fell heavily on the 10th. A snowfall with high winds also occurred in Manitoba on the 4th and again over a smaller area on the 7th. Over most of Ontario the precipitation was also in excess of the average, but there was a deficiency in a section extending from Peterboro eastward to the counties of Carlton and Lanark. In Quebec and the Maritime Provinces the rainfall was for the most part deficient, particularly in western New Brunswick, while a small excess was recorded in parts of eastern New Brunswick and in Prince Edward Island.

### HUMIDITY.

The relative humidity was normal in the upper Lake and southern slope regions; below normal in New England, and above normal in the remaining districts.

The averages by districts appear in the following table:

*Average relative humidity and departures from the normal.*

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England.....	73	-5	Missouri Valley.....	69	+4
Middle Atlantic.....	73	+1	Northern Slope.....	66	+8
South Atlantic.....	79	+2	Middle Slope.....	68	+7
Florida Peninsula.....	78	+2	Southern Slope.....	61	+0
East Gulf.....	78	+7	Southern Plateau.....	40	+7
West Gulf.....	80	+5	Middle Plateau.....	53	+2
Ohio Valley and Tennessee.....	71	+2	Northern Plateau.....	58	+2
Lower Lake.....	73	+2	North Pacific.....	78	+2
Upper Lake.....	72	+0	Middle Pacific.....	71	+4
North Dakota.....	67	+3	South Pacific.....	70	+1
Upper Mississippi Valley.....	71	+3			

### WIND.

The maximum wind velocity at each Weather Bureau station for a period of five minutes is given in Table I, which also gives the altitude of Weather Bureau anemometers above ground.

Following are the velocities of 50 miles and over per hour registered during the month:

*Maximum wind velocities.*

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Amarillo, Tex.....	9	50	s.	Minneapolis, Minn.....	4	50	s.
Chattanooga, Tenn.....	30	51	nw.	Modena, Utah.....	1	55	sw.
Cleveland, Ohio.....	11	60	nw.	Mount Tamalpais, Cal.....	2	51	nw.
Columbus, Ohio.....	30	59	w.	Do.....	3	64	nw.
Corpus Christi, Tex.....	14	60	ne.	Do.....	8	79	nw.
Devils Lake, N. Dak.....	3	56	ne.	Do.....	9	73	nw.
Do.....	4	55	n.	Do.....	11	60	nw.
Dodge, Kas.....	13	50	w.	Do.....	15	63	nw.
Duluth, Minn.....	3	54	ne.	Do.....	19	52	nw.
Do.....	4	57	ne.	Do.....	21	56	nw.
El Paso, Tex.....	10	50	sw.	North Head, Wash.....	9	54	nw.
Fort Smith, Ark.....	11	50	sw.	Pittsburg, Pa.....	17	55	sw.
Fort Worth, Tex.....	21	66	nw.	Sioux City, Iowa.....	3	59	s.
Hannibal, Mo.....	11	54	sw.	Do.....	4	54	w.
Jacksonville, Fla.....	31	51	n.	Do.....	9	52	e.
Lewiston, Idaho.....	16	62	nw.	Springfield, Mo.....	29	64	w.
Memphis, Tenn.....	4	60	nw.	Williston, N. Dak.....	15	57	nw.

## CLEAR SKY AND CLOUDINESS.

The cloudiness was below the average in the Florida Peninsula, the southern slope, southern Plateau, and middle and south Pacific regions; and above the average in the remaining districts.

The distribution of clear sky is graphically shown on Chart IV, and the numerical values of average daylight cloudiness, both for individual stations and by geographic districts, appear in Table I.

The average for the various districts, with departures from the normal, are shown in the following table:

*Average cloudiness and departures from the normal.*

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England .....	5.6	+ 0.1	Missouri Valley .....	5.9	+ 0.5
Middle Atlantic.....	5.6	+ 0.4	Northern Slope.....	6.1	+ 0.7
South Atlantic.....	5.6	+ 1.1	Middle Slope .....	4.9	+ 0.1
Florida Peninsula.....	3.9	- 0.6	Southern Slope.....	3.5	- 1.0
East Gulf .....	5.7	+ 1.4	Southern Plateau .....	2.0	- 0.2
West Gulf.....	5.5	+ 0.6	Middle Plateau .....	5.2	+ 1.1
Ohio Valley and Tennessee...	5.7	+ 0.6	Northern Plateau .....	6.1	+ 0.5
Lower Lake .....	5.6	+ 0.2	North Pacific.....	6.6	+ 0.7
Upper Lake .....	5.8	+ 0.3	Middle Pacific .....	4.1	- 0.1
North Dakota .....	6.1	+ 0.8	South Pacific.....	4.0	- 0.2
Upper Mississippi Valley.....	5.7	+ 0.5			

## DESCRIPTION OF TABLES AND CHARTS.

By Mr. WM. B. STOCKMAN, Chief, Division of Meteorological Records.

For description of tables and charts see page 20 of REVIEW for January, 1905.